

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
9 June 2005 (09.06.2005)

PCT

(10) International Publication Number
WO 2005/052145 A3

(51) International Patent Classification⁷: C12N 15/09,
9/80, A61K 7/28, 35/74, A61P 43/00

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(21) International Application Number:
PCT/US2004/033214

(22) International Filing Date: 7 October 2004 (07.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/509,175 7 October 2003 (07.10.2003) US

(71) Applicant (for all designated States except US): UNIVERSITY OF FLORIDA [US/US]; P.O. Box 115500, Gainesville, FL 32611-5500 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BURNE, Robert, A. [US/US]; 1226 SW 11th Street, Gainesville, FL 32607 (US). YI-YWAN, Margaret, Chen [US/US]; 9421 NW 4th Place, Gainesville, FL 32607 (US).

(74) Agent: JETTER, Neil, R.; Akerman Senterfitt, P.O. Box 3188, West Palm Beach, FL 33402-3188 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
24 November 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/052145 A3

(54) Title: RECOMBINANT ALKALIZING BACTERIA

(57) Abstract: Compositions and methods utilizing recombinant alkalinizing bacteria which include isolated nucleic acid constructs. The genetically engineered cells express at least one alkali producing enzyme, such as a urease, an arginine deiminase or an agmatine deiminase, which produce the alkali ammonia. When used in the mouth of a subject, the presence of alkalis raises the pH, reducing the incidence of cavities.